

Claims 46-55 (Cancelled)

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**Claim 56 (Currently amended):** A method of screening animals for identifying a pig to determine with a these polymorphism at position 52 of SEQ ID NO:2, wherein a pig with a threonine at amino acid position 30, a serine at amino acid position 52 and a valine at amino acid position 199 in SEQ ID NO:2 is indicative of a pig more likely to have favorable meat quality traits a higher ultimate pH and lower color scores than a pig having a threonine at amino acid position 30, a glycine at amino acid position 52, and a valine at amino acid position 199 in SEQ ID NO:2, wherein a threonine at amino acid position 30, a glycine at amino acid position 52, and a valine at amino acid position 199 is indicative of a lower ultimate pH and higher color scores, the method comprising:

obtaining a sample of biological material from an animal; and assaying from said sample the PRKAG3 protein for amino acid changes in said animal which are associated with favorable meat quality traits comprising color, pH level, marbling, and drip loss, said amino acid changes are characterized by a threonine at amino acid position 30, a serine at amino acid position 52 and a valine at amino acid position 199 in SEQ ID NO:2 or at an equivalent position as measured by a Blast comparison using default parameters detecting the amino acid at positions 30, 52, and 199 of SEQ ID NO:2; and relating the polymorphism to the phenotype.

Claims 57-60 (Cancelled)